

## Unit 2, Lesson 5A

Objective: Solve one step equations using the property of equality

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**Homework:** Page 91 #12, 14, 16, 20, 22, 24, 27, 28

## Do Now

Simplify the following on the scrap paper that Mrs. Moore gave you.

1. True or false:  $5 + (3 + 4) = 5 + (4 + 3)$  is an example of the commutative property. Why or why not?
2. Solve:  $5 + 7(-4) + 8 \div 2 + 2(-1)$

Be sure to put your name on your paper.  
Remember, Do Nows are being graded for effort.

Name: Answer Key  
Date: \_\_\_\_\_ Math: \_\_\_\_\_

**2.4 EQUATIONS HOMEWORK SHEET**

**Directions:** For each equation,  
1. Translate the mathematical statement into an English question  
2. Find the solution to the equation using mental math, a number line, or fact families  
3. Check your work by substituting in

<p>Example: <math>x + 8 = 10</math></p> <p>1. <u>What plus 8 gives me 10?</u></p> <p>2. <u><math>x = 2</math></u></p> <p>3. <u><math>2 + 8 = 10</math></u></p>	<p>Problem 1: <math>C + 7 = 3</math></p> <p>1. <u>What plus 7 gives me 3?</u></p> <p>2. <u><math>C = -4</math></u></p> <p>3. <u><math>-4 + 7 = 3</math></u></p>
<p>Problem 2: <math>K - 12 = 3</math></p> <p>1. <u>What take away 12 gives me 3?</u></p> <p>2. <u><math>K = 15</math></u></p> <p>3. <u><math>15 - 12 = 3</math></u></p>	<p>Problem 3: <math>19 - G = 2</math></p> <p>1. <u>Nineteen take away what gives me two?</u></p> <p>2. <u><math>G = 17</math></u></p> <p>3. <u><math>19 - 17 = 2</math></u></p>
<p>Problem 4: <math>6h = -48</math></p> <p>1. <u>Six times what gives me -48?</u></p> <p>2. <u><math>h = -8</math></u></p> <p>3. <u><math>6(-8) = -48</math></u></p>	<p>Problem 5: <math>81 \div F = -9</math></p> <p>1. <u>Eighty-one divided by what gives me negative nine?</u></p> <p>2. <u><math>F = -9</math></u></p> <p>3. <u><math>81 \div -9 = -9</math></u></p>
<p>Problem 6: <math>Y \div 8 = 7</math></p> <p>1. <u>What divided by eight gives me seven?</u></p> <p>2. <u><math>Y = 56</math></u></p> <p>3. <u><math>56 \div 8 = 7</math></u></p>	<p>Problem 7: <math>-19 + x = 17</math></p> <p>1. <u>-19 plus what gives me 17?</u></p> <p>2. <u><math>x = 36</math></u></p> <p>3. <u><math>-19 + 36 = 17</math></u></p>

## Announcements

### Brainstorming session

- Goal: Have supplies available for those who forget something (like a pencil), while ensuring that the supplies remain available for other students as well (i.e. are returned at the end of class). If you're interested to help come up with solutions, please talk with me after class or write me a note on your exit slip today.

### Tutorial

- Anyone is welcome to sign up for tutorial anytime and for any reason.
- Confused by what we did in class? Come to tutorial.
- Want to finish your homework before you leave school? Come to tutorial.
- Want to retake a quiz? Come to tutorial.



## Notes

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### Recall:

Inverse Operations - operations that 'undo' each other

- Addition and subtraction are inverse operations

### The Property of Equality

1. Subtraction Property of Equality

If  $A = B$  then  $A - C = B - C$

2. Addition Property of Equality

If  $A = B$  then  $A + C = B + C$

## Keep it balanced



- Solving an equation is like keeping a scale balanced.
- Whatever you do to one side, you also have to do to the other.



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### Steps to Solve an Equation using the Property of Equality (aka 'Balancing')

1. Get the variable alone using inverse operations ('undo' the operation)
2. The value on the other side of the equal sign tells you the solution
3. Check using the original equation



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**Ex 1:**

$$\begin{array}{rcl} x + 6 & = & -4 \\ -6 & -6 & \\ \hline x & = & -10 \end{array}$$

**Check:**  $(-10) + 6 = -4$

**Ex 2:**

$$\begin{array}{rcl} x + 8 & = & 3 \\ -8 & -8 & \\ \hline x & = & -5 \end{array}$$

**Check:**  $-5 + 8 = 3$



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$$\begin{array}{rcl} \text{Ex 3: } b - 12 & = & 49 \\ + 12 & + 12 & \\ \hline b & = & 61 \end{array}$$

Check:  $61 - 12 = 49$

## Practice

1. Choose a problem from the envelope.
2. Write the problem and the answer (be sure to check it) on your worksheet in the correct box.
3. Check with Mrs. Moore when you are finished for the Answer Key.
4. Staple or tape your worksheet over your notes page.

## The Last Seven Minutes...

1. Silently staple the Lesson 3 Practice Sheet (tonight's homework) in your notebook on page 72.
2. Silently pack up everything except a pencil.
3. Carefully (and silently) pass the exit slips from window to wall.
4. Silently fill out your exit slip. Everyone deserves five minutes of **strong silence** to recall and apply all that we learned today.